

FY2005

Red River Army Depot

Installation Action Plan



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FY 2005

Red River Army Depot
Texas

Installation Action Plan

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Acronyms & Abbreviations

AST	Above Ground Storage Tank
AEDB-R	Army Environmental Database-Restoration (formerly AEDB-R)
AMC	Army Materiel Command
APAR	Affected Property Assessment Report
AR	Army Regulation
ARAR	Applicable or Relevant and Appropriate Requirements
BCT	Base Cleanup Team
BEC	BRAC Environmental Coordinator
BRAC	Base Realignment and Closure
CA	Corrective Action
CEL	Chromate Equalization Lagoon
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CONUS	Continental United States
cy	cubic yards
DA	Department of the Army
DCE	Dichloroethylene
DD	Decision Document
DERA	Defense Environmental Restoration Account
DLA	Defense Logistics Agency
DNAPL	Dense Non-Aqueous Phase Liquids
DNT	Dinitrotoluene
DOD	Department of Defense
DP	Demonstration Project
DPW	Department of Public Works
DRMO	Defense Reutilization and Marketing Office
DRMS	Defense Reutilization and Marketing Service
DSERTS	Defense Site Environmental Restoration Tracking System (now AEDB-R)
EE / CA	Engineering Economic Cost Analysis
ER,A	Environmental Restoration, Army (formerly DERA)
EIS	Environmental Impact Statement
FFS	Focused Feasibility Study
FRA	Final Remedial Action
FS	Feasibility Study
ft	feet
FY	Fiscal Year (October 1-September 30)
GMW	Groundwater Monitoring Well
HSWA	Hazardous and Solid Waste Amendments
IA	Installation Assessment
IRA	Interim Remedial Action
IRP	Installation Restoration Program
IWTP	Industrial Waste Treatment Plant
LSAAP	Lone Star Army Ammunition Plant
LTM	Long-term Monitoring
MCL	Maximum Contaminant Level
MNA	Monitored Natural Attenuation
NA	Not Applicable
NCP	National Contingency Plan
NE	Not Evaluated
NEPA	National Environmental Protection Act

Acronyms & Abbreviations

NFA	No Further Action
NPL	National Priority List
NFRAP	No Further Remedial Action Planned
OTC	Ordnance/Officer Training Center
PA/SI	Preliminary Assessment/Site Inspection
PCB	Polychlorinated Biphenyl
PCL	Protective Concentration Level
PMZ	Plume Management Zone
POL	Petroleum, Oil & Lubricants
PP	Proposed Plan
RA	Remedial Action
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RA/FS	Risk Assessment / Feasibility Study
RAP	Remedial Action Plan
RBCA	Risk Based Corrective Action
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
REC	Record of Environmental Consideration
REM	Removal
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy in Place
RI/RA	Remedial Investigation / Risk Assessment
ROD	Record of Decision
RRAD	Red River Army Depot
RRSE	Relative Risk Site Evaluation
SARA	Superfund Amendments and Reauthorization Act
SCAPS	Site Characterization and Penetrometer System
SI	Site Inspection
SIN	Self Implementation Notice
SVOC	Semi-Volatile Organic Compounds
SWMU	Solid Waste Management Unit
TCE	Trichloroethylene
TCEQ	Texas Commission on Environmental Quality
TI	Technical Impracticability
TNT	Trinitrotoluene
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Panel
TX	Texas
USACE	United States Army Corps of Engineers
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAEC	United States Army Environmental Center
USAEHA	United States Army Environmental Hygiene Agency (replaced by USACHPPM)
USATHMA	United States Army Toxic and Hazardous Material Agency (replaced by USAEC)
UXO	Unexploded Ordnance
VOC	Volatile Organic Compounds
WES	Waterway Experiment Station
WIA	Western Industrial Area

Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year restoration program for an installation. The plan will define Installation Restoration Program (IRP) requirements and propose a comprehensive approach and associated costs to conduct future investigations and remedial actions at each Solid Waste Management Unit (SWMU) at the installation and other areas of concern.

In an effort to coordinate planning information between the IRP manager, major army commands (MACOMs), installations, executing agencies, regulatory agencies, and the public, an IAP has been completed for the Red River Army Depot (RRAD). The IAP is used to track requirements, schedules and tentative budgets for all major Army installation restoration programs.

All site specific funding and schedule information has been prepared according to projected overall Army funding levels and is therefore subject to change during the document's annual review. Under current project funding, all remedies will be in place at the RRAD by the end of 2009.

The following agencies contributed to the formulation and completion of this Installation Action Plan:

Engineering & Environment, Inc.

Red River Army Depot, IRP

Texas Commission on Environmental Quality

US Army Corps of Engineers, Fort Worth District

US Army Environmental Center

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STATUS:	<ul style="list-style-type: none"> • Non - NPL • RCRA Permitted since 13 Dec 1988 		
NUMBER OF AEDB-R SITES:	76 AEDB-R sites 13 Active ER,A Eligible Sites 53 Response Complete ER,A Eligible 3 MMRP sites		
DIFFERENT AEDB-R/BRAC SITE TYPES:	2	Burn Areas	11
	1	Contaminated Groundwater	3
	1	Surface Disposal Area	1
	3	Landfills	1
	1	POL Line	1
	1	Pesticide Shop	4
	4	Surface Impoundment/Lagoon	1
	31	Spill Site Areas	1
	4	Underground Storage Tanks	1
	1	Waste Treatment Plants	1
	2	Explosive Ordnance Disposal Areas	
			Contaminated Buildings
			Contaminated Sediments
			Firing Range
			Maintenance Yard
			Pistol Range
			Storage Areas
			Small Arms Range
			Sewage Treatment Plant
			Waste Line
			Other
CONTAMINANTS OF CONCERN:	Solvents, Heavy Metals		
MEDIA OF CONCERN:	Surface Water, Sediment, Soil, Groundwater		
COMPLETED REM/IRA/RA:	<ul style="list-style-type: none"> • IRA-Aug 94 & Jul 95-WWT & Panther Cr • IRA-Dec 93-Wood Landfill • IRA-Jun 95-BB-15 Area • IRA-Sep 93-Bldg 265 • RA-FY92-Bldg 348 • RA-FY89-Hayes Plant • IRA-Mar 96-Bldg 1025 • RA-1989-CEL • RA-Apr 97-Final Lagoon • IRA- Jan 00- Pesticide Pit • RA- FY00- Water Tower 		
CURRENT IRP PHASES:	RI/FS at 7 sites IRA at 2 sites	RA at 2 sites RD at 1 site	LTM at 6 sites
PROJECTED IRP PHASES:	LTM at 11 sites	IRA at 1 site	RA at 1 site
IDENTIFIED POSSIBLE REM/IRA/RA:	<ul style="list-style-type: none"> • RA at RRAD-62 and 63 		
DURATION:	YEAR OF IRP INCEPTION: 1988 YEAR OF IRP COMPLETION EXCLUDING LTM: 2009 YEAR OF LTM COMPLETION: 2035		

Installation Information

SITE DESCRIPTION:

Red River Army Depot (RRAD) is located on 18,316 acres of land in Bowie, County, Texas. RRAD is approximately 18 miles west of Texarkana, Texas/Arkansas (metro population 129,749). RRAD is adjacent to Hooks, Texas (population 2,684) and New Boston, Texas (population 5,057). Lone Star Army Ammunition Plant is adjacent to RRAD to the east.

COMMAND ORGANIZATION:

SUBCOMMAND: US Army Tank-automotive and Armaments Command (TACOM)

INSTALLATION: Red River Army Depot, Environmental Division

IRP EXECUTING AGENCIES:

U.S. Army Corps of Engineers, Fort Worth District

**REGULATORY
PARTICIPATION:**

FEDERAL: U.S. Environmental Protection Agency, Region VI

STATE: Texas Commission on Environmental Quality (TCEQ)

REGULATORY STATUS:

RCRA Part B Permit since 13 December 1988

**MAJOR CHANGES TO IAP
FROM PREVIOUS YEAR:**

RRAD conducted a pilot study of dual-phase solvent extraction technologies at Building 350 (RRAD-71). The preliminary results of the study indicated that it was not possible to reasonably extract any significant quantities of dual phase solvent contamination.

Installation Description

DESCRIPTION

Red River Army Depot (RRAD) is an active U.S. Army Facility. The major operational facilities on the Depot include: maintenance and rebuild of military vehicles, demilitarization of out-of-specification ordnance, ammunition storage, maintenance, modification, and recertification of the Hawk, Chaparral, and Patriot missiles, tank track and road wheel rebuild, and rubber products maintenance. Currently, most of the acreage covered by RRAD is used for commercial forestry and ammunition storage.

In 1942, the Army purchased the majority of the land (14,000 acres) for RRAD from several landowners in Bowie County. RRAD was initially intended to be a reserve ammunition storage depot; however, in December 1942 additional missions were added. Some of the missions included overhaul and modification of tanks, shipment of tanks, tactical vehicles, artillery, and small firearms. From 1943 until March 1944, Lone Star Army Ammunition Plant (LSAAP) was loosely combined with RRAD as the Texarkana Ordnance Center. In 1945, LSAAP was made a part of RRAD and remained as such until 1951. As a result of partial closure as a result of the Base Alignment and Closure Commission 1995 mandates and on-going utility privatizations there are approximately 797 acres of an original 19,081 acres that has already or will soon be transferred out of Army control.

During World War II and the Korean War, the depot served as an Ordnance Training Center for the purpose of training officers in ordnance support. The Ordnance Training Center was deactivated after the Korean War, but occasionally provides training to U.S. Army Reserve units.

Major tenants at RRAD are the Defense Reutilization Marketing Service (DRMS), the Defense Logistics Agency, and the Red River Munitions Center. DRMS reutilizes and/or disposes of surplus items. The Defense Logistics Agency supports seven of the eleven CONUS divisions in an eighteen state area.

Red River Army Depot was issued a Part B Permit for a Municipal Hazardous Waste Management Site on December 13, 1988 (Permit No. HW-50178-000, EPA ID No. TX 3213820738) pursuant to the Resource Conservation and Recovery Act (RCRA) as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA). Provision VIII of the Permit requires RRAD to conduct a RCRA Facility Investigation (RFI). The RFI is required to determine whether hazardous constituents have been released into the environment. The Texas Commission on Environmental Quality is responsible for enforcing the requirements of the Part B Permit.

MISSION

- To Conduct Ground Combat, Air Defense and Tactical Systems Maintenance, Certification and Related Support Services Worldwide for U.S. Army, DOD components and Allied/Friendly Nations.
- To Provide Essential Base Operations Services supporting mission functions and for Red River Tenant Activities.
- To be an Active and Viable Partner in the Bowie County, Greater Texarkana Community and the four states area at large.

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Contamination Assessment

Currently, there are 76 AEDB-R sites. In FY05, 13 sites are receiving IRP funding, 8 sites are receiving BRAC funding, and the rest are response complete.

The major releases to the environment have occurred in the Western Industrial Area (WIA), Closed Ordnance Training Center Landfill (OTC), and other closed landfills. The primary contaminants of concern are chlorinated solvents that were used in degreasing, paint, and fuel operations. The solvents used include trichloroethene, 1,1,1-trichloroethane and methylene chloride. Solvents and their degradation compounds have been found in sediments, soils, groundwater, and surface water around the maintenance area. The other contaminants of concern are heavy metals that include barium, cadmium, chromium, copper, zinc, lead, nickel, and silver commonly found in metal finishing processes.

Solvents have contaminated the groundwater under WIA and OTC. The extent of the contamination has not been completely delineated at the WIA, and has the potential to migrate off-post. Contamination and future activities at WIA are being conducted under both the ER,A and BRAC programs. Studies are underway to determine rate and extent of groundwater and surface water contamination.

Other releases to the environment have occurred at two former ammunition incinerators. The contaminants of concern are primarily heavy metals.

Reassessment of monitored natural attenuation at the closed OTC hazardous waste landfill is underway. The EPA and state regulators are pressing for source reduction in WIA, Building 433, and at the OTC landfill. RRAD conducted a pilot study at RRAD-71 building 350 to test solvent remediation technologies. Dual phase extraction was the technology chosen by the US Army to best study the practicallity of removal of solvents in relatively impermeable clay shale.

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FY2005

Red River Army Depot
Texas

ER,A Active AEDB-R Sites

RRAD-04 OTC BURIAL SITE

SITE DESCRIPTION

The Ordnance Training Center (OTC) Landfill is located on the northwest portion of the depot. Big Creek flows on the west side of the site, however no contamination has been found in the creek. From 1942 to ~1982, there were several different uses for this site. It was a Sewage Treatment Plant, an Industrial Waste Batch Treatment Plant, a drum storage area, and finally a landfill.

From 1977-82, four burial sites received containerized compounds including solvents, pentachlorophenol, and heavy metals. Closure of this RCRA-regulated unit was accomplished by installing a RCRA cap over the entire site in 1985.

VOCs have been released to the groundwater at the site. 1,1-DCE, 1,1,1-trichloroethane and TCE have been detected in groundwater.

The Army has reviewed the analytical data to support MNA.

STATUS

RRSE RATING: Medium

CONTAMINANTS:

VOCs

MEDIA OF CONCERN:

Groundwater

COMPLETED IRP PHASE:

RFA

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

LTM

PROPOSED PLAN

Permit modification will be submitted in FY05 to implement a MNA RCRA-corrective action program. Groundwater samples are being collected for VOCs and MNA parameters.

RRAD is waiting approval for the PMZ and the monitoring well network.

RRAD-28 INDUSTRIAL LANDFILL

SITE DESCRIPTION

This site (approximately 6 acres) was used for storage of wood pallets and scrap wood from 1970 - 1984. The waste was covered with a three foot compacted clay cap and groundwater detection monitoring was initiated in FY94. An additional 18" clay cap was installed in the fall of 1994.

VOCs were detected in monitoring well WD-2 during a 1999 sampling event. Subsequent sampling showed no detects in any of the wells.

The APAR was reviewed by TCEQ.

PROPOSED PLAN

The Response Action Plan is underway. Cap maintenance and LTM will continue.

STATUS

RRSE RATING: Low

CONTAMINANTS:

VOCs

MEDIA OF CONCERN:

Groundwater

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RI (funded)

FUTURE IRP PHASE:

LTM

RRAD-35 SOIL UNDERLYING BLDG 345, NORTH WASHRACK

SITE DESCRIPTION

Building 345 is located in the center of the WIA. This two-story, ~300,000 sq ft, building was built in 1942 and accommodates mechanical tear down, metal finishing, and re-build of military vehicles. There were an unknown number of solvent (TCE, TCA) spills during the 1950s and 60s. This site is still active, however, TCE and TCA are no longer being used at the Depot.

Chlorinated solvents have been detected in the groundwater since 1991.

The solvents in the groundwater are potentially causing a threat of exposure in surface water (Panther Creek).

The contaminated soil is covered by the building and is on top of a layer of dense clay. The bulk of the contamination runs along a ditch that defines the BRAC/ER,A border.

A comprehensive groundwater model of Building 345 and the Western Industrial Area has been completed. A pilot study (dual phase extraction) has been conducted at Building 350 (RRAD-71) to assess the reduction of DNAPLs.

STATUS

RRSE RATING: High

CONTAMINANTS:

Metals, VOCs, SVOCs

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI, RI/FS

CURRENT IRP PHASE:

LTM

FUTURE IRP PHASE:

LTM

PROPOSED PLAN

This site will eventually be part of the proposed WIA Plume Management Zone and will include monitored natural attenuation.

If any additional work is needed at RRAD-45, it will be funded under RRAD-35.

RRAD-36 BUILDING 371, (BATTERY SHOP) SOILS

SITE DESCRIPTION

Building 371 is used as a battery shop where large, wet cell, lead-acid forklift batteries are recharged and stored. No other historic uses for this building are known.

Trichloroethylene (TCE) contamination has been present in monitoring wells around Building 371, but Building 371 activities are not thought to be the source of the contamination. A possible source of the Building 371 solvent contamination may be unrecorded poor management practices at Building 345 or an alleged windstorm that destroyed a chemical storage facility formerly south of Building 362. Soil detections of lead at Building 371 exist, but at this time do not exceed Texas Total-Soil-Combined Protective Concentration Levels.

During a BRAC construction project, solvents were detected in surface water and were traced to the under slab drainage from Bldg 371.

STATUS

RRSE RATING: Medium

CONTAMINANTS:

Solvents

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA

CURRENT IRP PHASE:

RI/FS, IRA

FUTURE IRP PHASE:

LTM

PROPOSED PLAN

A draft APAR has been submitted to TCEQ. An additional well will be installed to determine the rate and extent of contamination. An IRA will be performed to correct a problem with the under slab drainage system. Begin LTM and MNA and establish a PMZ.

RRAD-37

SOILS UNDERLYING BLDG 373

(DYNAMOMETER SHOP)

SITE DESCRIPTION

Bldg 373 is located south of Bldg 371. It has been used as RRAD’s Dynamometer Shop from the 1940s to present. RRAD has reported various hydraulic fluid and waste oil spills on the basement floor in this building. There is evidence of past fuel leaks to the groundwater and surface water.

Five monitoring wells were installed and a SCAPS investigation was performed. Shallow soil samples and surface water samples were collected to determine the levels of contamination. Free product was found in one well inside the building, but could not be recovered during testing with a recovery system.

PROPOSED PLAN

A draft APAR was submitted to TCEQ. RRAD will continue to attempt to remove the free product in the monitoring well (IRA).

STATUS

RRSE RATING: Medium

CONTAMINANTS:

TPH

MEDIA OF CONCERN:

Groundwater

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RI/FS, IRA

FUTURE IRP PHASE:

IRA, LTM

RRAD-43 SOILS NEAR TRANSFER PUMPS, BLDG 473

SITE DESCRIPTION

Building 473 is an active site located in the northeast portion of the Depot. This site is also called the POL Pump Site and has four aboveground storage tanks that contain used POL and used antifreeze. The soil is contaminated from past activities with hydrocarbons, solvents, and antifreeze spills at the transfer pump site.

Groundwater has been impacted with solvents. Further analysis will determine the extent of contamination. The primary concern for this site is the use of VOCs which occurred prior to 1987. Solvents are no longer being used and a concrete liner has been added to the bermed floor.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Heavy Metals, Hydrocarbons,
Solvents

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

LTM

PROPOSED PLAN

A draft APAR will be submitted to TCEQ. Six monitoring wells will be sampled semi-annually.

RRAD-55 CHROMATE EQUALIZATION LAGOON

SITE DESCRIPTION

The Chromate Equalization Lagoon (CEL) Area was located at the Industrial Waste Treatment facility and served as the raw collection point for electroplating rinse water. The lagoon was about 65' x 95' and operated from 1978-89. The area was excavated upon closure. At least part of the lagoon is now covered with industrial wastewater storage tanks and associated concrete containment berms.

Closure has not been approved by TCEQ, due to groundwater issues involving elevated levels of metals. This site was incorporated into the Compliance Plan in June 2001.

PROPOSED PLAN

Groundwater monitoring will continue quarterly in transition to semi-annual monitoring sometime in FY05.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Heavy Metals

MEDIA OF CONCERN:

Groundwater

COMPLETED IRP PHASE:

PA/SI, RD, RA

CURRENT IRP PHASE:

RIP with LTM

FUTURE IRP PHASE:

RIP with LTM

RRAD-56 BLDG 315 TRANSFER STATION

SITE DESCRIPTION

The transfer station is located at the north end of Building 315 within the WIA. This site was used to transfer diesel to an aboveground storage tank. An abandoned 420,000 gallon storage tank (#319) is the only remnant left of the station.

Trichloroethylene was detected in the groundwater in the vicinity of the transfer station. The source of the contamination is thought to be unknown solvent spills or releases into a former drainage ditch located on the western portion of the site.

A pilot study (dual phase extraction) has been conducted at Building 350 (RRAD-71) to assess the source reduction of DNAPLs.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Solvents

MEDIA OF CONCERN:

Groundwater

COMPLETED IRP PHASE:

PA/SI, IRA

CURRENT IRP PHASE:

RI/FS (funded)

FUTURE IRP PHASE:

LTM

PROPOSED PLAN

This site will eventually be part of the proposed WIA Plume Management Zone and will include monitored natural attenuation.

BLDG 433, FORMER RUBBER PRODUCTS BLDG

SITE DESCRIPTION

This building is located east of Bldg 433, south of Bldg 431 at the northeast portion of the maintenance area. The building was used for rubber stripping, re-building of roadwheels for tracked vehicles, 1,1,1-trichloroethane vapor degreasing, adhesive application booths, paint operations, sand blasting, and injection molding operations for light tracked armored vehicles. Operations ceased in the early 1980s and the building is currently used for storage.

There were releases of solvents from vats in the north end of the building. Samples collected from soil and groundwater indicate contamination above PCLs.

STATUS

RRSE RATING: High

CONTAMINANTS:

VOCs, Metals

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RI

FUTURE IRP PHASE:

LTM

PROPOSED PLAN

Complete the APAR in FY05. This site will include MNA as a corrective action.

RRAD-61 1313 CLOSED LANDFILL

SITE DESCRIPTION

This approximately 40 acre, capped site is located on the west end of Lone Star Army Ammunition Plant. The landfill contains municipal waste, including rubber products apparently saturated with chlorinated solvents. The landfill was closed in the early 1990s.

VOCs in groundwater exceed PCLs.

Soil gas survey results showed concentrations of solvents within the western portion of the landfill and just northwest of the landfill cap. A close correlation between the natural attenuation degradation products (TCE, DCE, VC) was observed in the results.

An APAR was submitted to TCEQ in FY04.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Metals, VOCs

MEDIA OF CONCERN:

Groundwater

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

LTM

PROPOSED PLAN

Prepare a RAP. MNA is the expected remedy and groundwater monitoring will continue.

RRAD-62 POPPING FURNACE BUILDING #722

SITE DESCRIPTION

Building 722 is located near the north boundary line, west of the Commerce Park gate. Two incinerators were used to thermally treat obsolete or off-specification munitions from 1956, until the incinerators were dismantled in 1983.

There is lead and **DNT** contamination above state action levels in the shallow soils on the site.

PROPOSED PLAN

Complete and submit the APAR and remove lead contaminated soil. The remedial action will be awarded in late FY04.

STATUS

RRSE RATING: High

CONTAMINANTS:

Lead, DNT

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI, RI, RD

CURRENT IRP PHASE:

RI/FS

FUTURE IRP PHASE:

RC

RRAD-63 POPPING FURNACE BUILDING #1027

SITE DESCRIPTION

Buildings 1027 and 1025 were located just north of the open burning/open detonation grounds. Building 1025 ceased operation in the mid 1980s and was removed in the mid-1990s. Building 1027 was in operation from 1956-1976, with some failed trial burns after that period. Building 1027 was partially dismantled in the late 1990s (two walls and the foundation remain) and is an interim status RCRA-regulated unit. Interim removal action was completed in FY95 and FY96 which addressed the bulk of the source contamination.

The site is defined as the area between the trees to the west, the gravel road to the north, 80 feet from the south end of the building to the south, and the asphalt road to the east. These incinerators were used to thermally treat obsolete or off-specification munitions. The surrounding area is heavily wooded.

Cadmium and lead have been detected in the soil. In some areas, the contaminants exceeded the human health risk levels. In addition to soil contamination, munition debris is visible on the site.

STATUS

RRSE RATING: Medium

CONTAMINANTS:

Metals

MEDIA OF CONCERN:

Soil, Sediment

COMPLETED IRP PHASE:

PA/SI, IRA

CURRENT IRP PHASE:

RD

FUTURE IRP PHASE:

RA

PROPOSED PLAN

Final characterization via an APAR. A remedial action is planned to address the remaining metals contamination.

RRAD-71

BLDG 350, FORMER NI-CAD BATTERY SHOP

SITE DESCRIPTION

Building 350 was used for the maintenance of nickel-cadmium (Ni-Cad) batteries. It is located in the middle of the WIA. A floor drain that led to a concrete pit outside the building is suspected to have leaked. This site initially was identified as a BRAC site, but changed to IRP in 1997.

Historic spills of VOCs into the creek to the east of Bldg 350 are a probable source of the majority of contamination at this site.

High levels (690 ppm) of solvents were detected in the ground-water. No contamination was detected in air samples.

A pilot study (dual phase extraction) has been conducted at Building 350 (RRAD-71) to assess the source reduction of DNAPLs.

STATUS

RRSE RATING: Medium

CONTAMINANTS:
VOCs

MEDIA OF CONCERN:
Soil, Groundwater, Surface Water

COMPLETED IRP PHASE:
PA/SI, RI, IRA

CURRENT IRP PHASE:
RI/FS

FUTURE IRP PHASE:
LTM

PROPOSED PLAN

This site will eventually be part of the proposed WIA Plume Management Zone and will include monitored natural attenuation.

FY 2005

Red River Army Depot

Texas

RESPONSE COMPLETE

AEDB-R SITES

RRAD-07 OTC HOSPITAL

SITE DESCRIPTION

This site contains the building foundations and roads of the hospital area of the old OTC. From August 1942 - March 1956, the hospital was part of the OTC area and was located at the west portion of the depot.

Soil and groundwater were evaluated in December 1996 by USACHPPM. Based upon USACHPPM analysis results and/or comparison to RRAD background studies, there appears to be no significant environmental concern with this site.

This site requires no further action under the IRP.

STATUS

RRSE RATING: Medium

CONTAMINANTS:

Metals

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1981

RRAD-08 OTC RIFLE RANGE

SITE DESCRIPTION

This site is located NW of the present boundary. It was sold and therefore is no longer part of RRAD. It's estimated that this site was in operation from the mid 1940s to 1953, associated with the training of military troops. The site was investigated by the St. Louis USACOE, Project K06TX013901, report dated March 1995.

This site requires no further action under the IRP. It is a FUDS site.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Metals

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1981

RRAD-09 SURVEILLANCE AREA

SITE DESCRIPTION

This site is located on the southwest portion of the Depot and consists of 104 acres which were used (from 1948 -1980s) to test various types of ordnance: signal flares, grenade fuses, and mines. An unexploded ordnance preliminary site survey was conducted by the Huntsville Army Corps of Engineers in July 1996. Results indicated that no environmental actions were required.

This site requires no further action under the IRP.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Heavy Metals

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1998

RRAD-10 SURVEILLANCE AREA (1953)

SITE DESCRIPTION

This site is located on the northwest portion of the Depot and consists of 40 acres which were used (from 1953 -1960) to test various types of ordnance: signal flares, grenade fuses, and mines. An unexploded ordnance preliminary site survey by the Huntsville Army Corps of Engineers was conducted in July 1996. Results indicated that no environmental actions were required.

This site requires no further action under the IRP.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Heavy Metals

MEDIA OF CONCERN:

Groundwater, Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1998

RRAD-11 SURVEILLANCE AREA (PISTOL RANGE)

SITE DESCRIPTION

This site is located on the southeast portion of the Depot and was used between 1969 and the 1990s. Pistol range use consisted of annual qualifying with small caliber handguns and surveillance testing of 50 caliber machine guns, 7.62mm, 20mm, and 40mm rounds. A report from a site visit by Huntsville Corps of Engineers Unexploded Ordnance (UXO) in July 1996 suggested that there was a UXO problem.

This site is currently used to test 25mm cannons. The UXO will be reevaluated at the time of the final range closure (non-IRP funds).

When range clean-up funds are available, the spent ammunition projectiles in this active weapons test range will need to be disposed, but at this time this site is not ER,A funding eligible.

STATUS

RRSE RATING: High

CONTAMINANTS:

Heavy Metals

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1998

RRAD-14 BUILDING 311 (X-RAY FACILITY)

SITE DESCRIPTION

This site consists of a small building housing an x-ray unit used for examining the structural integrity of tactical vehicles. The building is surrounded by asphalt. The location of this building is west of Building 315 and northwest of Building 345 (within the BRAC area).

No radiation has been detected at the site.

This site requires no further action under the IRP.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Radiation

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1987

RRAD-15

RAD STORAGE (BLDGS. B12-3, G5-6, G-14-7, E13-5)

SITE DESCRIPTION

A Safety and Occupational Health Radiation Survey was conducted 18 September 96 and no measurable radiation contamination was found.

This site requires no further action under the IRP.

STATUS

RRSE RATING: NE

CONTAMINANTS:

Radiation

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1978

RRAD-16

RAD STORAGE (F14-1, A14-5, C3-5, C6-1 C9-7, E4-1)

SITE DESCRIPTION

A Safety and Occupational Health Radiation Survey was conducted 18 September 96, and no measurable radiation contamination was found.

This site requires no further action under the IRP.

STATUS

RRSE RATING: NE

CONTAMINANTS:

Radiation

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1978

RRAD-17 RAD FIRE BLDGS-661 (OLD T-6)

SITE DESCRIPTION

Building S-661 is located in the ammunition area and was used to conduct fluoroscopy of 66mm LAW rockets, which contained promethium 147 radioactive limited light sights. A fire occurred in the building some time between 1970 and October 1974. No radiation was detected during the safety screening.

This site requires no further action under the IRP.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Radiation

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1978

RRAD-18 RAD FIRE BUILDING 421

SITE DESCRIPTION

This site is located in the west portion of WIA. It is currently being used in the depot's electronic re-build program. No radiation was detected during the safety screening.

Because this site is active, it is not eligible for IRP funds.

This site requires no further action under the IRP.

STATUS

RRSE RATING: NE

CONTAMINANTS:

Radiation

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1978

RRAD-19 RAD WASTE STORAGE

SITE DESCRIPTION

The PA/SI, completed in July 1978, found no evidence of a threat to human health or the environment. No radiation was detected during the safety screening.

This site requires no further action under the IRP.

STATUS

RRSE RATING: NE

CONTAMINANTS:

Radiation

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1978

RRAD-21 FLAMMABLE MATERIAL STORAGE (S-257, 327, 329, S-402)

SITE DESCRIPTION

Buildings included in this site are S-257, 327, 329, S-402, S-547, and S-648. No contamination was detected during the PA/SI.

This site requires no further action under the IRP.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Metals, TRPH

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1978

RRAD-22 FLAMMABLE MATERIAL STORAGE (S-547, S-648, T-1190)

SITE DESCRIPTION

This site consists of three flammable storage sheds. Bldg S-547 is located east of Bldg 541, and Bldg S-648 is located south of Bldg 636. The location of T-1190 is unknown. No contamination was detected during the PA/SI.

This site requires no further action under the IRP.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Metals, TRPH

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1978

RRAD-26 AERATION LAGOONS (4) IN AREA K

SITE DESCRIPTION

This site is located on H row of the ammunition restricted area. This site may have received rinse water from the formerly used TNT washout facility. The lagoon is approximately 285' in length, 60' wide and 3' deep, and has a race track construction. The discharge is monitored under the facility NPDES permit.

This site is active and therefore, not eligible for IRP funds.

This site requires no further action under the IRP.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Explosives, TRPH

MEDIA OF CONCERN:

Soil, Surface Water

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1994

RRAD-30 POPPING FURNACE BLDG #1025

SITE DESCRIPTION

Building 1025, located just north of the open burning/open detonation grounds, was removed in July 1995. This incinerator was used to thermally treat obsolete or off-specification munitions from 1955-1989. An interim soil removal project was completed in accordance with the closure plan and Provision 4 of the Agreed Order Number 95-0105-IWH-E, in March 96. Approximately 10,000 cubic yards of excavated lead contaminated soil was removed.

Six GWM wells were installed at the south incinerator in May 1996. In 1999, information to complete the closure report was collected by Anderson Columbia. Risk Reduction Standard 1 or 2 may not be feasible due to high metals level remaining in place. Rate and extent must be identified before closure is achieved.

This site requires no further action under the IRP, as it was consolidated into adjacent site RRAD-63.

STATUS

RRSE RATING: Medium

CONTAMINANTS:

Lead, Cadmium, Chromium, TRPH

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI, RI, IRA

CURRENT IRP PHASE:

RC - 2001

SITE DESCRIPTION

This site consist of three 25'X60' drying beds that were constructed July 1978. The waste piles are used for de-watering chrome sludge from the IWTP process. Quarterly GW detection monitoring is occurring at this site.

This site is active and therefore, not eligible for IRP funds.

This site requires no further action under the IRP. This site has been privatized under BRAC 95 process.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Heavy Metals

MEDIA OF CONCERN:

Groundwater, Soil

COMPLETED IRP PHASE:

PA/SI, RI

CURRENT IRP PHASE:

RC - 1993

RRAD-38 WASTE PILES

RRAD-39 FINAL LAGOON, IWTP

SITE DESCRIPTION

This site is not eligible for IRP funds.

This surface impound was located at the IWPT. It was constructed in the late 1970s and received final closure in 1997.

This site requires no further action under the IRP. This site has been privatized under BRAC 95 process.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Heavy Metals

MEDIA OF CONCERN:

Soil, Groundwater, Surface Water

COMPLETED IRP PHASE:

PA/SI, IRA, RD, RA

CURRENT IRP PHASE:

RC - 1997

RRAD-40 RAW PHOSPHATE DETENTION LAGOON, IWTP

SITE DESCRIPTION

The three Phosphate Lagoons are located at the IWTP and serve as the raw collection point for rinse waters from PO4 wash racks.

These lagoons are currently in operation and maintain a total combine capacity of 1.5 million gallons.

This site is not eligible for IRP Funds.

This site requires no further action under the IRP. This site has been privatized under BRAC 95 process.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Metals

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI, IRA, RD, RA

CURRENT IRP PHASE:

RC - 1994

RRAD-41 SOILS NEAR BLDG 430

SITE DESCRIPTION

This site is located in the southeast portion of the WIA and has been closed.

This site requires no further action under the IRP.

STATUS

RRSE RATING: NE

CONTAMINANTS:

Heavy Metals, VOCs

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI, RI, RD, RA

CURRENT IRP PHASE:

RC - 1989

RRAD-45 SOILS UNDER BLDG 341

SITE DESCRIPTION

Building 341 was constructed in 1967 and is located southeast of Building 345 in the WIA. It has been used as an alodine coating/rinse operation, for parts washing, for assembly of parts for military vehicles and to repair/rebuild/refurbish military vehicles. The process was used on aluminum hulls for Bradley and all the M113 family of vehicles.

This site will be further investigated and characterized. Any required remedial actions will be funded as part of RRAD-35. This site will be part of the proposed WIA Plume Management Zone.

STATUS

RRSE RATING: Low

SITE TYPE: Spill Site Area

CONTAMINANTS:

Heavy Metals, VOCs

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI, RI

CURRENT IRP PHASE:

RC - 2002

RRAD-46 BIG CREEK

SITE DESCRIPTION

This creek flows southward and is located on the west side of the Depot near the OTC area. It is suspected that this creek is being impacted by VOCs from OTC Landfill. RFI was approved by the TNRCC 5 Oct 92. Detect stream sampling started in FY98 at six locations in the vicinity of the OTC landfill.

This site is being evaluated under AEDB-R site RRAD-04.

STATUS

RRSE RATING: NE

CONTAMINANTS:

VOC, Heavy Metals

MEDIA OF CONCERN:

Soil, Sediment, Surface Water

COMPLETED IRP PHASE:

PA/SI, RI

CURRENT IRP PHASE:

RC - 1992

RRAD-49 TNT WASHOUT FACILITY SOILS

SITE DESCRIPTION

This site is located southeast of the OB/OD grounds in "K" area of the facility. It was used for steam rinsing of high explosives from artillery rounds from 1950 -1968. Contaminated soil was removed.

This site requires no further action under the IRP.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Explosives

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1993

RRAD-50 OB/OD AREA

SITE DESCRIPTION

This site is located in the south central part of the Depot. Open detonation/open burning of off-specification explosives is being performed in accordance with interim status regulations. The Open Burning area is approximately 2 acres and the Open Detonation area is approximately 1000 sq ft. Both were put into operation in 1950.

This site requires no further action under the IRP.

This site is not eligible for IRP funds.

STATUS

RRSE RATING: Medium

CONTAMINANTS:

Heavy Metals

MEDIA OF CONCERN:

Groundwater, Soil, Surface Water

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1993

RRAD-54 SOILS AT BLDG 420

SITE DESCRIPTION

Building 420 is located in the southeast portion of the WIA and was constructed in 1953. It currently serves as a Hazardous Material Storage building under DLA's guardianship. Soil north of the building was investigated in April 1991 to determine if hazardous compounds were released. VOCs were detected, but the contamination was isolated. In December 1993, the UST was removed.

This site requires no further action under the IRP.

STATUS

RRSE RATING: NE

CONTAMINANTS:

Heavy Metals, VOCs, TRPH

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI, RI, RA

CURRENT IRP PHASE:

RC - 1993

RRAD-57 MAINTENANCE SALVAGE YARD

SITE DESCRIPTION

This site is located on the east end of the maintenance area. The site was used as a staging area for waste oils and solvents. Currently, the site is used for parts storage from many various vehicles repaired at this facility.

An August 1995, a "Maintenance Salvage Yard Baseline Risk Assessment" evaluated the site for soil and surface water contamination. The assessment concluded that "...the concentrations of the constituents at the site do not present the potential for adverse health effects under the current land-use scenario."

Since the site will continue in operation, confirmatory sampling may be required after closing. There are tentative plans to convert this site into parking lot in FY06.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Heavy Metals, Petroleum Hydrocarbons

MEDIA OF CONCERN:

Soil, Surface Water, Sediments

COMPLETED IRP PHASE:

PA, RI

CURRENT IRP PHASE:

RC - 1999

RRAD-59 D-AREA Y-SITE

SITE DESCRIPTION

In the late 1950s, lightning struck a stockpile of ammunition stored in the open air (Y-site), causing a detonation which spread ammunition outside the limits of the Y-site. Remedial actions consisted of using bulldozers to collect the debris. The debris was stockpiled into the original storage site and the area was roped off. An unexploded ordnance preliminary site survey was conducted in July 1996 by the Huntsville COE.

This site is fenced with UXO warning signs and requires no further action under the IRP.

This site is not eligible for IRP funds.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Heavy Metals, Explosives

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI

CURRENT IRP PHASE:

RC - 1981

RRAD-69 BLDG 319 PIPELINE

SITE DESCRIPTION

This building was a boiler house. There is no evidence that any contamination was released from this site.

This site was initially identified as BRAC, then released to IRP in 1997.

This site requires no further action under the IRP.

STATUS

RRSE RATING: NE

CONTAMINANTS:

None

MEDIA OF CONCERN:

None

COMPLETED IRP PHASE:

PA

CURRENT IRP PHASE:

RC - 1997

RRAD-70 BLDG 388, DISCHARGE LINE (SINK)

SITE DESCRIPTION

Building 388 was used for repairs and paint touch-up work of containers used by the Army for storage of engines and transmissions. It is located in the middle of the industrial complex. A sink on the north end of the building drained directly to the ground and there is some concern that a release did occur. This site initially was identified as BRAC, but changed to IRP in 1997.

Cadmium and lead was detected slightly above background levels in the subsurface soil at three locations. VOCs and SVOCs were not indicated above the method reporting limits MRLs.

Closure was received from TNRCC in 1998.

STATUS

RRSE RATING: Low

CONTAMINANTS:

VOCs, Metals

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA/SI, RI

CURRENT IRP PHASE:

RC - 1999

RRAD-73 BLDG 414 GEN STORAGE BLDG, DIRT FLOOR

SITE DESCRIPTION

Building 414 was built in 1951 and is a dirt floor storage warehouse located east of Building 424, in the DLA area. This building has always been used as a storage facility for equipment, hazardous materials and POLs. No spills are documented.

Soil and sediment samples were evaluated in a limited RFI detailed in "RCRA Facility Investigation Report for Building 414," dated May 2000. The RFI was done because at the time the building was to be excessed through BRAC. The BRAC footprint was changed, and the building is no longer excessed.

The RFI indicated minimal environmental impact, with no further action necessary at the site.

STATUS

RRSE RATING: Low

CONTAMINANTS:

Metal, TRPH

MEDIA OF CONCERN:

Soil

COMPLETED IRP PHASE:

PA/SI, RI

CURRENT IRP PHASE:

RC - 1999

RRAD-74 BLDG 411 ANNEALING VATS UNDER FLOOR

SITE DESCRIPTION

Building 411 currently houses machine shop operations including hydraulic breaks, punches, etc. The as-built of this facility reveal inspection pits that were used when the facility was used for rail car maintenance. These pits are now covered with concrete. There is no evidence that any contamination was released from this site.

This site was initially identified as BRAC, then released to IRP in 1997.

This site requires no further action under the IRP.

STATUS

RRSE RATING: NE

CONTAMINANTS:

None

MEDIA OF CONCERN:

None

COMPLETED IRP PHASE:

PA

CURRENT IRP PHASE:

RC - 1997

RRAD-76

BLDG 421 RAD EMITTING SOURCES PRESENT

SITE DESCRIPTION

No radiation was detected during the safety screening.
This site was initially BRAC, but changed to IRP 1997.
This site requires no further action under the IRP.

STATUS

RRSE RATING: NE

CONTAMINANTS:

None

MEDIA OF CONCERN:

None

COMPLETED IRP PHASE:

PA

CURRENT IRP PHASE:

RC - 1996

RRAD-77

BLDG 431, RADIOLOGICAL SOURCE PRESENT

SITE DESCRIPTION

No radiation was detected during the safety screening.
This site was initially BRAC, but changed to IRP 1997.
This site requires no further action under the IRP.

STATUS

RRSE RATING: NE

CONTAMINANTS:

None

MEDIA OF CONCERN:

None

COMPLETED IRP PHASE:

PA

CURRENT IRP PHASE:

RC - 1996

RRAD-78 BLDG 443 RADIOLOGICAL SOURCE PRESENT

SITE DESCRIPTION

No radiation was detected during the safety screening.

This site was initially BRAC, but changed to IRP 1997.

This site requires no further action under the IRP.

STATUS

RRSE RATING: NE

CONTAMINANTS:

None

MEDIA OF CONCERN:

None

COMPLETED IRP PHASE:

PA

CURRENT IRP PHASE:

RC - 1997

RRAD-81 AMMUNITION SURVEILLANCE TRACER TEST RANGE

SITE DESCRIPTION

The tracer test range is located a quarter mile to the northeast of the rifle range. Small caliber bullets, 20mm, 7.62mm, and 40mm, were fired into a large corrugated steel tunnel sand trap from a test stand, while observing the tracer performance from the range tower.

Lead contamination in steel trap tunnel appears to be contained. Limited RFA was done. When range clean-up funds are available the bullets in the tunnel will need to be disposed, but at this time this site is not ER,A funding eligible.

STATUS

RRSE RATING: High

CONTAMINANTS:

Heavy Metals

MEDIA OF CONCERN:

Soil, Groundwater

COMPLETED IRP PHASE:

PA

CURRENT IRP PHASE:

RC - 1997

SITE DESCRIPTION

No radiation was detected during the safety screening.

This site was initially BRAC, but changed to IRP 1997.

This site requires no further action under the IRP.

STATUS

RRSE RATING: NE

CONTAMINANTS:

None

MEDIA OF CONCERN:

None

COMPLETED IRP PHASE:

PA, RD, RA

CURRENT IRP PHASE:

RC - 1997

ACTIVE

RRAD-20	Pesticide Storage
RRAD-33	Former Building 348
RRAD-34	Soil Underlying Building 333
RRAD-44	Panther Creek
RRAD-45	Soils Under Building 341
RRAD-48	Waste Water Treatment Area
RRAD-51	Former UST (Building 162)
RRAD-52	Former UST Building 333
RRAD-58	Hays (Former) Batch Treatment Plant Area
RRAD-64	Building 172, Diesel Transfer Station
RRAD-95	X-1 Sewage Treatment Plant
RRAD-96	Industrial Waste Treatment Plant

RESPONSE COMPLETE

RRAD-65	Building 163, Vehicle Wash Rack
RRAD-66	Building 713, Golf Shop Maintenance Area
RRAD-67	Building 113, Lift Station
RRAD-68	Building 167, Vehicle Storage Shed
RRAD-72	Building 168, Auto Mechanics POL Storage
RRAD-75	Comp Building 112 CBD Room
RRAD-79	Comp Building 161 LBP Project
RRAD-82	General Storage Lots
RRAD-85	Building 150
RRAD-86	Building 166
RRAD-88	Building 281
RRAD-89	Building 286
RRAD-90	Building 290
RRAD-91	Building 726
RRAD-92	Motor Pool Drainage Ditch
RRAD-93	Water Tower
RRAD-94	DPW Storage Yard

PAST MILESTONES

The IRP began at RRAD in March 1978. A study was conducted by the Department of the Army, Office of the Project Manager for Chemical Demilitarization and Installation Restoration, from Aberdeen Proving Ground, Maryland. The PA/SI phase on several sites was initiated in 1978, however, the PA/SI phase on many other sites was initiated at later dates. The Red River Army Depot is a non-NPL Facility.

IRP Phase	Completion Date
IRP PA Initiation	Mar 78
PA/SI, Installation	Jul 78
IRA (DBOF) (RRAD-58)	Jun 90
IRA (RRAD-33)	Jul 92
RFI, Clean closure (RRAD-41)	Nov 92
RFI (RRAD-46)	Apr 92
Closure (RRAD-04)	1985
RA (RRAD-55)	Jul 89
IRA (RRAD-39)	1993
IRA (RRAD-56)	1993
IRA (RRAD-51,52)	1993
IRA (RRAD-20)	Sep 93
RFI (RRAD-38)	Oct 93
RFI (RRAD-48)	Nov 93
IRA (RRAD-28)	Dec 93
RFI (RRAD-43)	Jan 94
RFI (RRAD-04,44)	Mar 94
RFI (RRAD-20)	Apr 94
Risk Assessment (RRAD-44,48)	Jun 94
Risk Assessment (RRAD-43)	Jun 94
Risk Assessment (RRAD-04)	Jul 94
Risk Assessment (RRAD-20)	Jan 95
Closure Plan (RRAD-62)	Apr 95
Closure Plan (RRAD-30)	Apr 95
RFI (RRAD-34)	Apr 95
RFI (RRAD-35)	May 95
Interim Removal (RRAD-44,48)	Jul 95
Interim removal (RRAD-06)	Aug 95
Risk Assessment (RRAD-57)	Aug 95
RFI (RRAD-33)	Sep 95
RFI (RRAD-06)	Oct 95
IR 1st Phase (RRAD-30)	Nov 95
RFI (RRAD-58)	Mar 96
Second Phase IRA (RRAD-30)	Apr 96
Risk Assessment (RRAD-35)	May 96
Closure Report IWAP Lagoons	Feb 97
Closure Report Bldg. 1025	Feb 97
Soil Background Report	Jun 98

PAST MILESTONES

IRP Phase	Completion Date
Groundwater Background Investigation	Sep 98
Task 1 Report Misc Sites	May 99
Natural Attenuation Work Plan for WIA	Aug 99
RFI Bldg 350	May 00
RFI Bldg 414	May 00
RFI Bldg 433	May 00
Natural Attenuation Study WIA	Jun 00
Natural Attenuation Study, OTC	Jan 01
BRAC Suitability to Transfer Documents	Mar 01
Draft Work Plan for Post RFI Investigation of X-1 Sewage Plant	Nov 01
Draft Work Plan for APAR for 1313 Landfill	Dec 01
Draft Work Plan for Soil and Groundwater Investigations Near Building 1025 and 1027	Feb 02
Comprehensive Sampling and Analysis Plan	May 02
Final Work Plan for Building 433 Post-RFI	Jun 02
Draft APAR for Closed Woodyard	Aug 02
Workplan for APAR Investigation at Building 722	Nov 02
Supplemental RFI Report for Bldg 414	Nov 02
Remedial Action for North and South Stormwater Lagoons	May 03
Site Investigation Data Report for OTC Landfill	May 03
Draft Final Affected Property Assessment Report for Building 1027 Area	Jul 03
Draft Storm Sewer Repair Report	Oct 03
Draft Chromate Sewer Repair Report	Oct 03
Draft Final Affected Property Assessment Report for 1313 MSW Landfill	Sep 03
OTC Landfill Monitored Natural Attenuation Addendum 2	Feb 04
Final Affected Property Assessment Report for Hays Plant	Apr 04
Building 172 Release Investigation Report	Mar 04
Industrial Wastewater Treatment Plant Release Investigation Report	Apr 04

FUTURE MILESTONES

IRP Phase	Completion Date
All RA	End of FY09
All IRP actions	End of FY35

NO FURTHER ACTION SITES

RRAD-07	OTC Hospital	RC	(1981)
RRAD-08	OTC Rifle Range	RC	(1981)
RRAD-09	Surveillance Area	RC	(1998)
RRAD-10	Surveillance Area (1953)	RC	(1998)
RRAD-11	Surveillance Area (Pistol Range)	RC	(1998)
RRAD-14	Building 311 (X-Ray Facility)	RC	(1987)
RRAD-15	RAD Storage (Bldgs B12-3, G5-6, G-14-7, E13-5)	RC	(1978)
RRAD-16	RAD Storage (Bldgs F14-1, A14-5, C3-5, C6-1, C9-7, E4-1)	RC	(1978)
RRAD-17	RAD Fire Building S-661 (Old T-6)	RC	(1978)
RRAD-18	RAD Fire Building 421	RC	(1978)
RRAD-19	RAD Waste Storage	RC	(1978)
RRAD-20	Pesticide Storage	BRAC	
RRAD-21	Flammable Material Storage (S-257, 327-329, S-402)	RC	(1978)
RRAD-22	Flammable Material Storage (S-547, S-648, T1190)	RC	(1978)
RRAD-26	Aeration Lagoons (4) in Area K	RC	(1994)
RRAD-30	Popping Furnace Bldg #1025	RC	(2000)
RRAD-34	Soil Underlying Building 333	BRAC	
RRAD-38	Waste Piles	RC	(1993)
RRAD-39	Final Lagoon, IWTP	RC	(1997)
RRAD-40	Raw Phosphate Detention Lagoon, IWTP	RC	(1994)
RRAD-41	Soils Near Bldg 430	RC	(1992)
RRAD-44	Panther Creek	BRAC	
RRAD-45	Soils Under Bldg 341	RC	(2002)
RRAD-46	Big Creek	RC	(1992)
RRAD-48	Waste Water Treatment Area	BRAC	
RRAD-49	TNT Washout Facility Soils	RC	(1993)
RRAD-50	OB/OD Area	RC	(1993)
RRAD-51	Former UST (Bldg 162)	BRAC	
RRAD-54	Soils ar Bldg 420	RC	(1993)
RRAD-55	Chromate Equalization Lagoon	RC	(1989)
RRAD-57	Maintenance Salvage Yard	RC	(1999)
RRAD-58	Hays (Former) Batch Treatment Plant Area	BRAC	
RRAD-59	D-Area Y-Site	RC	(1981)
RRAD-64	Bldg 172, Diesel Transfer Station	BRAC	
RRAD-65	Bldg 163, Vehicle Wash Rack	BRAC	
RRAD-66	Bldg 713, Golf Shop Maintenance Area	BRAC	
RRAD-67	Bldg 113, Lift Station	BRAC	
RRAD-68	Bldg 167, Vehicle Storage Shed	BRAC	
RRAD-69	Bldg 319 Pipeline	RC	(1997)
RRAD-70	Bldg 388, Discharge Line (Sink)	RC	(1999)
RRAD-72	Bldg 168, Auto Mechanics POL Storage	BRAC	

NO FURTHER ACTION SITES

RRAD-73	Bldg 414, Gen Storage Bldg, Dirt Floor	RC (1999)
RRAD-74	Bldg 411, Annealing Vats Under Floor	RC (1997)
RRAD-75	Comp Bldg 112 CBD Room	BRAC
RRAD-76	Bldg 421, RAD Emitting Sources Present	RC (1996)
RRAD-77	Bldg 431, Radiological Source Present	RC (1996)
RRAD-78	Bldg 443, Radiological Source Present	RC (1996)
RRAD-79	Comp Bldg 161 LBP Project	BRAC
RRAD-81	Ammunition Surveillance Tracer Test Range	RC (1997)
RRAD-82	General Storage Lots	BRAC
RRAD-83	Comp Building 413	RC (1997)
RRAD-85	Building 150	BRAC
RRAD-86	Building 166	BRAC
RRAD-88	Building 281	BRAC
RRAD-89	Building 286	BRAC
RRAD-90	Building 290	BRAC
RRAD-91	Building 726	BRAC
RRAD-92	Motor Pool Drainage Ditch	BRAC
RRAD-93	Water Tower	BRAC
RRAD-94	DPW Storage Yard	BRAC
RRAD-96	Industrial Waste Treatment Plant	BRAC

Red River Army Depot IAP Schedule

(Based on Cost to Complete current funding constraints)

CURRENT PHASE			FUTURE PHASE				
AEDB-R #	SITE NAME	PHASE	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009+
RRAD-04	OTC BURIAL SITE	RI/FS					
		LTM					
RRAD -28	INDUSTRIAL LANDFILL	LTM					
RRAD-35	SOIL UNDERLYING BLDG 345, NORTH WASHRACK	LTM					
RRAD-36	BLDG 371 (BATTERY SHOP) SOILS	RI/FS					
		IRA					
		LTM					
RRAD-37	SOILS UNDERLYING BLDG 373 (DYNAMOMETER SHOP)	RI/FS					
		IRA					
		LTM					
RRAD-43	SOILS NEAR TRANSFER PUMPS, BLDG 473	RI/FS					
		LTM					
RRAD-55	CHROMATE EQUALIZATION LAGOON	LTM					
RRAD-56	BUILDING 315 TRANSFER STATION	LTM					
RRAD-60	BLDG 433, FORMER RUBBER PRODUCTS BLDG	RI/FS					
		LTM					
RRAD-61	1313 CLOSED LANDFILL	RI/FS					
		LTM					
RRAD-62	POPPING FURNACE BLDG# 722	RA					
RRAD-63	POPPING FURNACE BLDG #1027	RD					
		RA					
RRAD-71	BLDG 350, FORMER NI-CAD BATTERY SHOP	RI/FS					
		LTM					

Remediation Activities

COMPLETED REM/IRA/RA:

RFI has been completed on RRAD-04, 06, 20, 28, 34, 35, 36, 37, 38, 41, 43, 44, 45, 46, 48, 56, 58.

RRAD-44, Panther Creek & RRAD-48, WWT , Aug 94 & Jul 95, IRA, BRAC 95

RRAD-28, Wood Yard Landfill, Dec 93, IRA

RRAD-63, Building 1027, Mar 96, IRA- removal of soil prior to putting improvements on building.

RRAD-06, Soil around BB-15 area was removed in Jun 95.

RRAD-20, Building 265 was demolished in September 1993. BRAC 95

RRAD-28, a cap was completed on the Wood Landfill in December 1993.

RRAD-30, Soil around Building 1025 was removed and the incinerator demolished.

RRAD-33, Building 348 was demolished in FY92 and the debris was removed. BRAC 95

RRAD-39, Sludge and Lagoon were removed in Apr 1997 from the Final Lagoon. BRAC 95

RRAD-44,48; Contaminated soil and sediment in ditches at these sites were removed.

RRAD-55, Chromate Equalization Lagoon (CEL Area) site has had the lagoon water and soils removed.

RRAD-58, Hays Treatment Plant 2200 cubic yards of heavy metals contaminated soil was removed in FY89. BRAC 95

RRAD-20, Pesticide Pit, IRA, Jan 00, BRAC 95

RRAD-93, Water Tower, RA, FY00, BRAC 95

Closure of chrome sludge drying beds at RRAD-96 through excavation.

CURRENT REM/IRA/RA:

RRAD-04, OTC Landfill – monitored natural attenuation planned.

FUTURE REM/IRA/RA:

RRAD-35, Building 345, RRAD-37, Dynamometer Shop and RRAD-56, Building 315 - Based upon pilot study results at Building 350, the anticipated remedy for these sites will be the establishment of a plume management zone and monitored natural attenuation.

Remediation Activities

FUTURE REM/IRA/RA:

RRAD-60, Building 433 - source reduction planned if FY03-04 pilot project at RRAD-71 is proven technically practicable.

RRAD-61, 1313 Landfill – monitored natural attenuation LTM planned.

RRAD-62, Building 722 – contaminated soil excavation planned.

RRAD-63, Building 1025/1027 - contaminated soil excavation planned.

RRAD-71, Bldg 350 - source reduction planned if FY03-04 pilot project at RRAD-71 is proven technically practicable.

RESTORATION ADVISORY BOARD (RAB) STATUS

RRAD established an active RAB in 2 Feb 96 that meets annually. Currently, the members are:

BEC-Mr. Ross Ramsauer
BCT Member-EPA Region, Mr. Greg Lyssy
BCT Member-Central Office, Austin, TX, Mr. Geof Meyer
BCT Member-Region 5 TCEQ, Mr. Tom Erny
BCT Member-Fort Worth District, COE, Mr. Steven Smith
BCT Member-RRAD IRP Manager, Mr. Jeffrey Gschwind